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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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3M INNOVATIVE PROPERTIES COMPANY				
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ST. PAUL, MN 55133-3427				
			ART UNIT	PAPER NUMBER
			2644	11

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,524

Applicant(s)

HALL ET AL.

Examiner

Andrew Graham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9,10.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on July 7, 2001 and April 14, 2004 were filed after the mailing dates of the application on December 19, 2000 and the first office action on December 5, 2003, respectively. The submissions are in compliance with the appropriate provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner.

Claim Rejections - 35 USC § 112

2. The amendments made to Claims 21 and 22 in the response submitted March 5, 2004 properly address the previous rejections of said claims under 35 U.S.C. 112. Accordingly, the previous rejections under 35 U.S.C. 112 are hereby withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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3. **Claims 1-11, 13-15, and 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruppert et al (USPN 6236969) in view of Ishikawa et al (USPN 5590407). Hereafter, "Ruppert et al" will be referred to as "Ruppert" and "Ishikawa et al" will be referred to as "Ishikawa".

Ruppert teaches a communication system comprising a headset and a base station, along with the means to transmit and receive information via both infrared and radio frequency signals. The IR communication interfaces are intended for data transfer between the headset and the base station as well as other devices (col. 6, lines 60-64 and col. 7 lines 13-21). The infrared controls can be particularly used to tune a headset (10) to a particular base unit (70) (col. 10, lines 23-26). The headset (10) also includes an integrated circuit for programming a memory (101) with various number and word commands (col. 8, lines 20-22). The headset (10) reads on "a programmable headset". The headset components of the headband (12) and the electronics housing (14) read on "a headband" and "a electronics housing" (col 3, lines 56-58). The mouthpiece (16), which contains several interface components (18, 52, 54, 89) also reads on an "electronics housing". Figure 5 diagrams the electronic components of the headset (10), which can be seen to include an IR interface (97) (col. 7, lines 11-21 and 61-63). In terms of physical design, the headset interface port or opening (89) can be seen in Figure 1, while Ruppert discloses that multiple ports in various locations may be

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provided on the device (col. 7, lines 8-11). The ability of this interface (97) to receive and emit IR signals, in view of well known IR communication interface circuitry reads on "a headset infrared light detector arranged to receive infrared signals" and "located in a detector portion of the electronics housing". The input IR signals are received and conditioned by the headphone control electronics component (32), which reads on "a headset signal processing device with an input coupled to the output of the headset infrared light detector". Figure 5 also depicts the cellular communication electronics component (30) and RF control circuitry (90) for reception and transmission of RF signals, which reads on "a transmitter operably connected to the headset signal processing device" and "a receiver operably connected to the headset signal processing device" (col. 7, lines 25-31).

Ruppert does not specify:

- a control device for switching a frequency of the transmitter between at least two frequencies
- that these two frequencies correspond to enabling communication between the headset and a first and a second lane location

Ishikawa discloses a drive through wireless order taking system. The embodiments shown in Figures 7 and 8 involve the operation of headsets with base stations for two drive-through lanes, referred to as lane "A" and lane "B" (col. 13, lines 2-7). The shown headsets in each figure include headsets (136,151) with "A/B lane

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change" switches (139,149) (col. 13, lines 45-56 and col. 14, lines 29-39). Ishikawa teaches that setting such a switch into a position "A-lane" enables the headset to transmit and receive messages in a mode for lane "A", and setting such a switch into a position "B-lane" enables the headset to transmit and receive messages in a mode for lane "B" (col. 15, lines 17-20 and col. 16, lines 49-52). The communication between the base stations and the headsets is described as involving multiple different carrier frequencies (col. 14, lines 65-67; col. 15, lines 32-37; col. 16, lines 2-5). In view of these disclosed different frequencies and the respective operating "modes" for the receivers and transmitters of the headsets, the "A/B lane change switch" of each headset reads on "a control device for switching a frequency of the transmitter between at least a first frequency and a second frequency". The lanes "A" and "B" of Ishikawa to which these modes correspond read on "thereby enabling the headset to switch between communicating with a first lane location using the first frequency and a second lane location using the second frequency".

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to include the control switch and corresponding transmitter and receiver circuitry of Ishikawa into the headset system of Ruppert. The motivation behind such a modification would have been that such circuitry would have enabled the headset of Ruppert to selectively communicate between multiple communication channels.

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Regarding **Claim 2**, batteries (40) are included in the headset component (10) of Ruppert, which reads on "a battery attached to the headband and operably connected to the headset signal processing device".

Regarding **Claim 3**, Figure 3 of Ruppert illustrates the base unit (70), which includes a support recess (81) that reads on "a cradle for receiving the detector portion of the headset" (col. 6, lines 27-41). Again, it is noted that Ruppert teaches that multiple, variously positioned IR ports may be included on the headset. In view of the functions provided, the base unit (70) of Ruppert is considered herein to read on "a programming unit". The base unit (70) includes the circuitry for issuing broadcast communications over the IR band as well as transmit serial data to the headset (10) (col. 6, lines 63-64 and col. 10, lines 54-63). This circuitry reads on "a programming unit signal processing device with an output". The components of the infrared port (88) of the base unit (70), in view of variously positioned headset IR ports, read on "a programming unit infrared light emitter positioned for infrared light communication with the headset light detector when the detector portion is positioned in the cradle" and "operably connected to the output of the programming unit signal processing device" (col. 6, lines 64-66).

Regarding **Claim 4**, the IR ports (88,89) of Ruppert are described as enabling full duplex communication between the headset (10) and other data transmission devices, along with the communications between the headset (10) and base unit (70) (col. 7,

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lines 16-21 and col. 10, lines 26-34 and 54-59). The components necessary to conduct the two way communication between the headset (10) and base unit (70) read on "a headset infrared light emitter operably connected to an output of the headset signal processing unit" and "a programming unit infrared light detector" arranged to received, convert, and output electrical versions of infrared signals.

Regarding **Claim 5**, Ruppert discloses that multiple IR ports in various locations may be provided on the device, and the port depicted (88) is located on the mouthpiece (16) towards the end of one side of the headset (10) (col. 7, lines 8-11). These teachings read on "the detector portion of the electronics housing is located at an end of the electronics housing".

Regarding **Claim 6**, the IR interface port (89) is illustrated as defined panel on the headset (10) of Ruppert, the construction of such a well known component reading on "the detector portion of the headset includes at least a window of infrared transparent material".

Regarding **Claim 7**, the mouthpiece (16) of Ruppert's invention includes a microphone (18) and a speaker (20), which reads on "the headband includes a speaker and a microphone" (col. 4, lines 10-12). Ruppert also discloses that systems with a wired connection between the headset and transmission components are previously known in the art, the concept of which reads on "the headband is operably connected coupled to the electronics housing by a wire connection" (col. 1, lines 49-50).

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Regarding **Claim 8**, the mouthpiece (16) of Ruppert's invention includes a microphone (18) and a speaker (20) and is connected through another electronics housing (14) to the headband (12), which reads on "the electronics housing is attached to the headband and "includes a speaker and a microphone" (col. 4, lines 10-22 and Figure 1).

Regarding **Claim 9**, please refer to the like teachings of Claims 1, 3, and 8.

Regarding **Claim 10**, Ruppert discloses that serial data is passed through the base unit (70) by the infrared port (88), wherein the serial data is obtained through a serial data port (86) from a data source such as a computer (col. 6, lines 60-63). The base unit (70) also includes a telephone jack (85) for integration of the invention into a conventional telephone system. Computers and conventional telephone devices are well known in the art to include physical input consoles or controls. These outside components as well as their physical connection to the interface circuitry of the base unit (70) read on "further comprising a base unit connected to the programming unit, the base unit comprising a control panel".

Regarding **Claim 11**, the base unit (70) of Ruppert includes volume control switches (76,77), which reads on "the programming unit further comprises a control panel" (col. 6, lines 20-22).

Regarding **Claim 13**, please refer to the like teachings of Claim 5. Regarding **Claim 14**, please refer to the like teachings of Claim 6.

Regarding **Claim 15**, interface ports (88,89) are each shown as specific panels in the headset (10) and support recess (81) of the

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base unit (70) of Ruppert. Considering the implementations of IR diodes and photodetectors for IR communication interfaces that are standard, and well-known in the art, these IR interface ports and the housings in which they are situated are considered to read on "a programming unit housing at least partially enclosing the programming unit infrared light emitter and the programming unit signal processing device" and "at least a portion of the cradle comprises an infrared light transparent material".

Regarding **Claim 18**, please refer to the like teachings of Claim 1. Regarding **Claim 19**, please refer to the like teachings of Claim 4.

Regarding **Claim 20**, please refer to the like teachings of Claims 1 and 3, noting that the IR ports enable communication to be conducted between two headset units and that the data transmitted between the base unit (70) and headset (10) enables the headset of Ruppert to be powered up from a standby mode, as well as carry password information for security purposes. It is this active communication, powering up capability, and security information transfer that is considered to read on "information regarding operation settings of the headset" and "establishing operation settings of the headset in response to the signal".

4. **Claim 12** is rejected under 35 U.S.C. 103 (a) as being unpatentable over Ruppert in view of Ishikawa as applied above, and in further view of well known prior art.

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As detailed above, Ruppert discloses a communication system comprising a headset and a base station, along with the means to transmit and receive information via both infrared and radio frequency signals. Ishikawa discloses a headset system that includes a switch for operating the receiver and transmitter of the headset in two different communication modes that correspond with two different physical locations.

Ruppert in view of Ishikawa does not disclose:

- that the base unit, or programming unit, is wall mountable

However, the Examiner takes Official Notice that the concept of mounting the base unit of a portable communications device is substantially well known in the art. The base unit of a portable telephones is one particular component of a communication device that is specifically well-known in the art to be wall mountable.

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to make the base unit of the invention of Ruppert in view of Ishikawa to be wall mountable, as is well known art. The motivation behind such a modification would have been the space-saving advantages of a unit that mounts to a wall as opposed to one that sits on a shelf, countertop, or other horizontal surface. Telephone connections are also commonly built into the walls of houses and other shelter-type structures, and mounting the base of a communications device on the same or nearby wall would have minimized the amount of wire needed to properly connect the

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communication device as well as limited the physical exposure of the connection wire.

5. **Claims 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruppert in view of Ishikawa as applied above, and in further view of Menadier et al (USPN 5027433). Hereafter, "Menadier et al" will simply be referred to as "Menadier".

As detailed above, Ruppert discloses a communication system comprising a headset and a base station, along with the means to transmit and receive information via both infrared and radio frequency signals. Figures 1 and 3 illustrate embodiments with IR ports (88,89) for the headset and base station. These ports are depicted as involving a defined part of the surfaces of the respective devices. Ruppert also discloses that the IR port (89) may be variously placed and included in multiple numbers, in order to provide a communications interface with a plurality of devices (col. 7, lines 8-21). Ishikawa discloses a headset system that includes a switch for operating the receiver and transmitter of the headset in two different communication modes that correspond with two different physical locations.

Ruppert in view of Ishikawa does not specify:

- that the cradle is entirely composed of a infrared transparent material

Menadier discloses an infrared transceiver for a headset based communication device. Figure 3 illustrates the infrared transceiver for being positioned on the headband of the headset device, which

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includes an enclosing antenna cover (242) (col. 5, lines 34-64). Such an arrangement of emitters (21-26) and receivers (41-46) allows signals to be received in a full circular field around the headset (col. 3, lines 1-19). The cover, transparent to the infrared signals, enables this wide range of transmission to take place, while protecting the actual components that comprise the transceiver. The concept of an entirely transparent cover or housing, in view of the transceiver location depicted for the base unit of Ruppert, reads on "the cradle consists of an infrared light transparent material".

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to make the cradle of Ruppert in view of Ishikawa out of a transparent material as is taught in regards to the transceiver portion of the invention of Menadier. The motivation behind such a modification would have been based on the benefits that such a larger transparent interface surface would have provided for the communication device of Ruppert in view of Ishikawa, including but not limited to, the increase range of signal transmission as well as an improvement in the ability to communicate with the multiple interface ports in the various locations as proposed for the headset device of Ruppert.

Regarding **Claim 17**, as discussed in regards to Claim 16, Menadier teaches the concept of wide range receiver with a corresponding transparent cover. These teachings make obvious the concept of providing a full range, transparent cover for devices comprising infrared transceivers. In view of the limitations of the parent

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claims of Claim 17, this reads on "the programming unit housing consists of an infrared light transparent material".

6. **Claims 21 and 22** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Ruppert in view of Ishikawa as applied above, and in further view of Lee et al (USPN 5247380). Hereafter, "Lee et al" will simply be referred to as "Lee".

As detailed above, Ruppert discloses a communication system comprising a headset and a base station, along with the means to transmit and receive information via both infrared and radio frequency signals. As discussed above, Ruppert discloses that the base station is able to alter the operation settings of the headset. Ishikawa discloses a headset system that includes a switch for operating the receiver and transmitter of the headset in two different communication modes that correspond with two different physical locations.

While a valid communication link between these two devices is required for the control signal to be sent, Ruppert in view of Ishikawa does not disclose:

- the indicating of a ready condition for receiving programming signals through sending an infrared signal from the headset to the programming station

Lee discloses an infrared communications network for ensuring connection and error free transmission between the devices in the network. As can be seen in Figure 1A, each transmission interface device in the network (24,26,30) includes a transmitter and receiver.

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Figures 4A-8 illustrate the process flow of the invention. Figure 4C illustrates the manner in which baton packets are transmitted to determine if components are responsive and are thus in service (col. 10, lines 24-48). The affirmative or responsive condition of an transmission interface device reads on "indicating a ready condition for receiving a programming signal of the headset by transmitting an infrared light signal from a headset IR detector emitter to a programming station IR detection emitter".

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to include the handshake protocol for determining the connected devices in the system of Lee into the infrared communications protocols of the invention of Ruppert in view of Ishikawa. The motivation behind such a modification would have been that such a communication procedure would reliably and continuously determined the connection status of the devices in the communication network of the invention of Ruppert in view of Ishikawa. The teachings of Lee also enables more than two devices to be connected and configured in the same system.

Regarding **Claim 22**, the condition of a node in the teachings of Lee as being responsive to a baton packet involves the nodes being 'on' in some manner. Ruppert also discloses that the base station includes the ability to awake the headset from a standby condition in response to a transmission (col. 10, lines 59-61). In view of each other, these two teachings read on, "the step of indicating a ready condition further comprises turning the headset on".

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Response to Arguments

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brooks (USPN 5220677) also discloses a system for enabling communication between multiple lane positions.

Schotz (USPN 5491839) discloses a system for enabling a headset to be selectively coupled to one of a plurality of high frequency channels.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Graham whose telephone number is 703-308-6729. The examiner can normally be reached on Monday-Friday, 8:30 AM to 5:00 PM (EST).

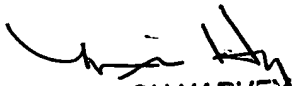
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AG

Andrew Graham
Examiner
A.U. 2644

ag
May 25, 2004


MINSUN OH HARVEY
PRIMARY EXAMINER